

CLAIMS

1. An electronic component comprising an electronic component body and external electrodes formed thereon, each including a first sintered electrode layer and a second sintered electrode layer disposed thereon, the first and second sintered electrode layers mainly containing different metals, wherein

the first sintered electrode layer contains a first borosilicate glass containing an alkali metal, the first borosilicate glass containing 85% to 95% by weight of silicon and 0.5% to 1.5% by weight of the alkali metal based on 100% by weight of all contained elements other than boron according to analysis with a wavelength dispersive X-ray microanalyzer; and

the second sintered electrode layer contains a second borosilicate glass containing an alkali metal, the second borosilicate glass containing 65% to 80% by weight of silicon and 3.5% to 8.0% by weight of the alkali metal based on 100% by weight of all contained elements other than boron according to analysis with a wavelength dispersive X-ray microanalyzer.

2. The electronic component according to Claim 1, wherein the alkali metal contained in the first borosilicate glass is potassium; and the alkali metal contained in the second borosilicate glass is sodium.

3. The electronic component according to Claim 1, wherein the metal mainly contained in the second sintered electrode layer is a noble metal.

4. The electronic component according to Claim 3, wherein the noble metal is silver-palladium.

5. The electronic component according to Claim 1, wherein the electronic component body includes internal electrodes; and the metal mainly contained in the first sintered electrode layer is a metal that is alloyed with the internal electrodes.

6. The electronic component according to Claim 5, wherein the internal electrodes mainly contain nickel; and the metal that is alloyed with the internal electrodes is copper.

7. The electronic component according to any one of Claims 1 to 6, wherein the external electrodes of the electronic component are for connecting to patterned electrodes on a mounting substrate with a conductive adhesive prepared by dispersing a metal filler in a resin.

8. A method for producing an electronic component including an electronic component body and external electrodes formed thereon, each including a first sintered electrode layer and a second sintered electrode layer disposed thereon, the first and second sintered electrode layers mainly containing different metals, the method comprising the steps of:

forming the first sintered electrode layer by applying to the electronic component body a first conductive paste containing a first metal, as a main component, and a first borosilicate glass that contains an alkali metal and has a first softening temperature; and sintering the first conductive paste at a first sintering temperature higher than the first softening temperature; and

forming the second sintered electrode layer by applying to the first sintered electrode layer a second conductive paste containing a second metal different from the first metal and a second borosilicate glass that contains an alkali metal and has a second softening temperature lower than the first softening temperature; and sintering the second conductive paste at a second sintering temperature lower than the first softening temperature and higher than the second softening temperature.

9. The method for producing the electronic component according to Claim 8, wherein the second metal is sintered at the second sintering temperature, which is lower than the melting temperature of the second metal, using the second borosilicate glass; and the second sintering temperature is lower than the first softening temperature by at least 50°C.

10. The method for producing the electronic component according to Claim 8, wherein the first metal is sintered at the first sintering temperature, which is lower than the

melting temperature of the first metal, using the first borosilicate glass; the second metal is sintered at the second sintering temperature, which is lower than the melting temperature of the second metal, using the second borosilicate glass; and the decrease in the second sintering temperature relative to the melting temperature of the second metal is larger than the decrease in the first sintering temperature relative to the melting temperature of the first metal.

11. The method for producing the electronic component according to Claim 8, wherein the alkali metal contained in the first borosilicate glass is potassium; and the alkali metal contained in the second borosilicate glass is sodium.

12. The method for producing the electronic component according to Claim 8, wherein the second metal is a noble metal.

13. The method for producing the electronic component according to Claim 12, wherein the noble metal is silver-palladium.

14. The method for producing the electronic component according to any one of Claims 7 to 13, wherein the electronic component body includes internal electrodes; and the first metal is a metal that is alloyed with the internal electrodes.

15. The method for producing the electronic component

according to Claim 14, wherein the internal electrodes mainly contain nickel; and the metal that is alloyed with the internal electrodes is copper.